Short description of the norm EN 13432:2000 "Requirements for packaging recoverable through composting and biodegradation- Test scheme and evaluation criteria for the final acceptance of packaging"

Nowadays, the terms "*biodegradation*", "*biodegradable materials*", "*compostability*" etc. are very common but frequently misused and source of misunderstanding. The European norm EN 13432 resolves this problem by defining the characteristics a material must own in order to be claimed as "compostable" and, therefore, recycled through composting of organic solid waste. The definition of the compostability criteria is very important because materials not compatible with composting (traditional plastics, glass, materials contaminated with heavy metals, etc.) can decrease the final quality of compost and make it not suitable for agriculture and, therefore, commercially not acceptable. This norm is a reference point for the producers, the public authorities, the composting plant managers, and the consumers.
According to the EN 13432, the characteristics a compostable material must show are:

- Biodegradability, namely the capability of the compostable material to be converted into CO_2 under the action of micro-organisms. This property is measured with a laboratory standard test method: the EN 14046 (also published as ISO 14855: biodegradability under controlled composting conditions). In order to show complete biodegradability, a biodegradation level of at least 90% must be reached in less than 6 months (*Note: measurement errors and biomass production are experimental factors which can make it difficult to reach 100%: this is why threshold is set at 90%, rather than at 100%*).
- Disintegrability, namely fragmentation and loss of visibility in the final compost (absence of visual pollution). Measured in a pilot scale composting test (EN 14045). Specimens of the test material are composted with biowaste for 3 months. The final compost is then screened with a 2 mm sieve. The mass of test material residues with dimensions > 2 mm shall be less than 10% of the original mass (*Note: also in this case a 10% tolerance is allowed, taking into account the typical error found in biological analysis*).
- Absence of negative effects on the composting process. Verified with the pilot scale composting test.
- Low levels of heavy metals (below given max. values) and absence of negative effects on the final compost (i.e. reduction of the agronomic value and presence of ecotoxicological effects on the plant growth). A plant growth test (modified OECD 208) and other physical-chemical analysis are applied on compost where degradation of test material has happened.

Each of these points is needed for the definition of compostability but it is not sufficient, alone. For example, a biodegradable material is not necessarily compostable, because it must also disintegrate during the composting cycle. On the other hand, a material which breaks during composting into microscopic pieces which are then not fully biodegradable it is also not compostable.
The norm EN 13432 is an harmonised norm, i.e. it has been quoted in the Official Journal of the European Communities, it has been implemented in Europe at national level, and it provides presumption of conformity with the European Directive 94/62 EC on packaging and packaging waste

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